Ordering and Making Pizza for 120 Million

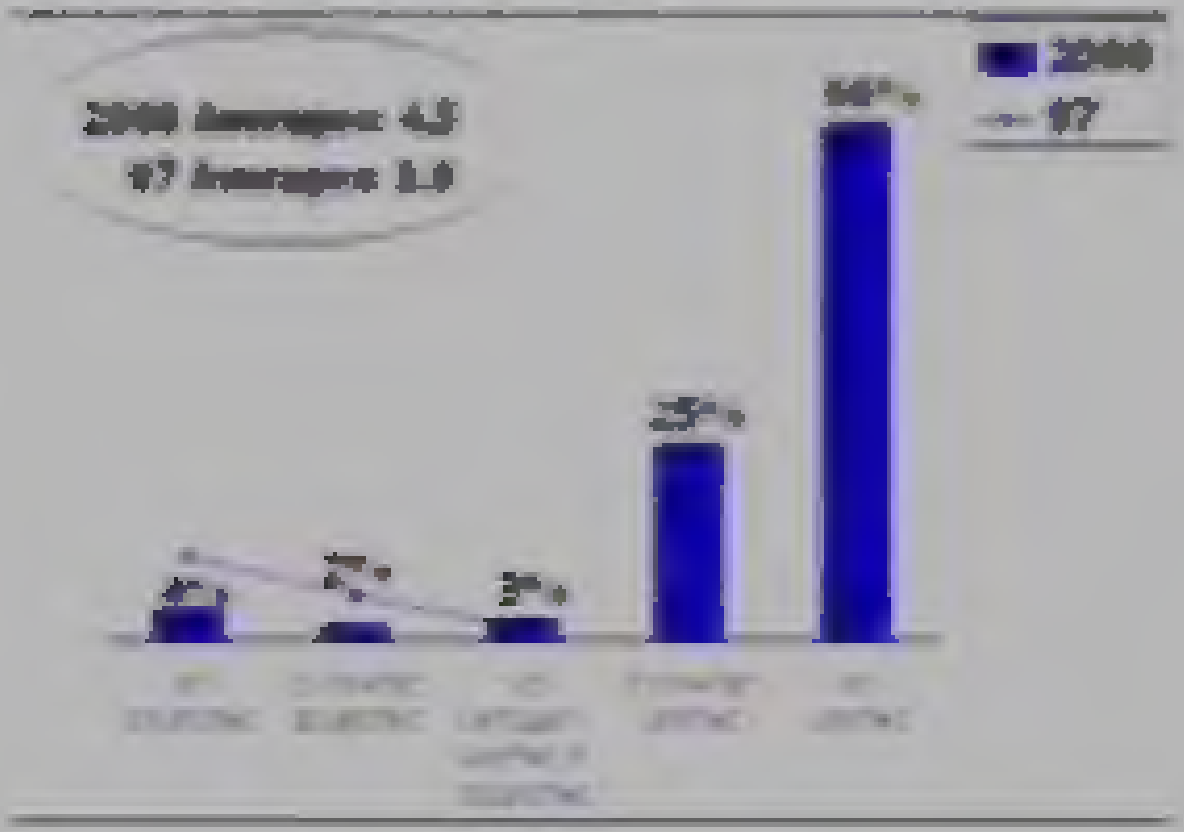
Designing and Building the Next Office

Agenda

- Designing a New Office
  - Office customer challenges
  - Understanding our customers
  - Using customer feedback, understanding in design
- Building Office
  - How we're organized
  - The development cycle
  - The code
  - The life of an Office developer
  - What we do well
  - What we don't do so well

Challenges – The Pizza Problem…

- 120 million relatively happy and loyal customers
  - Why should I get the next version?



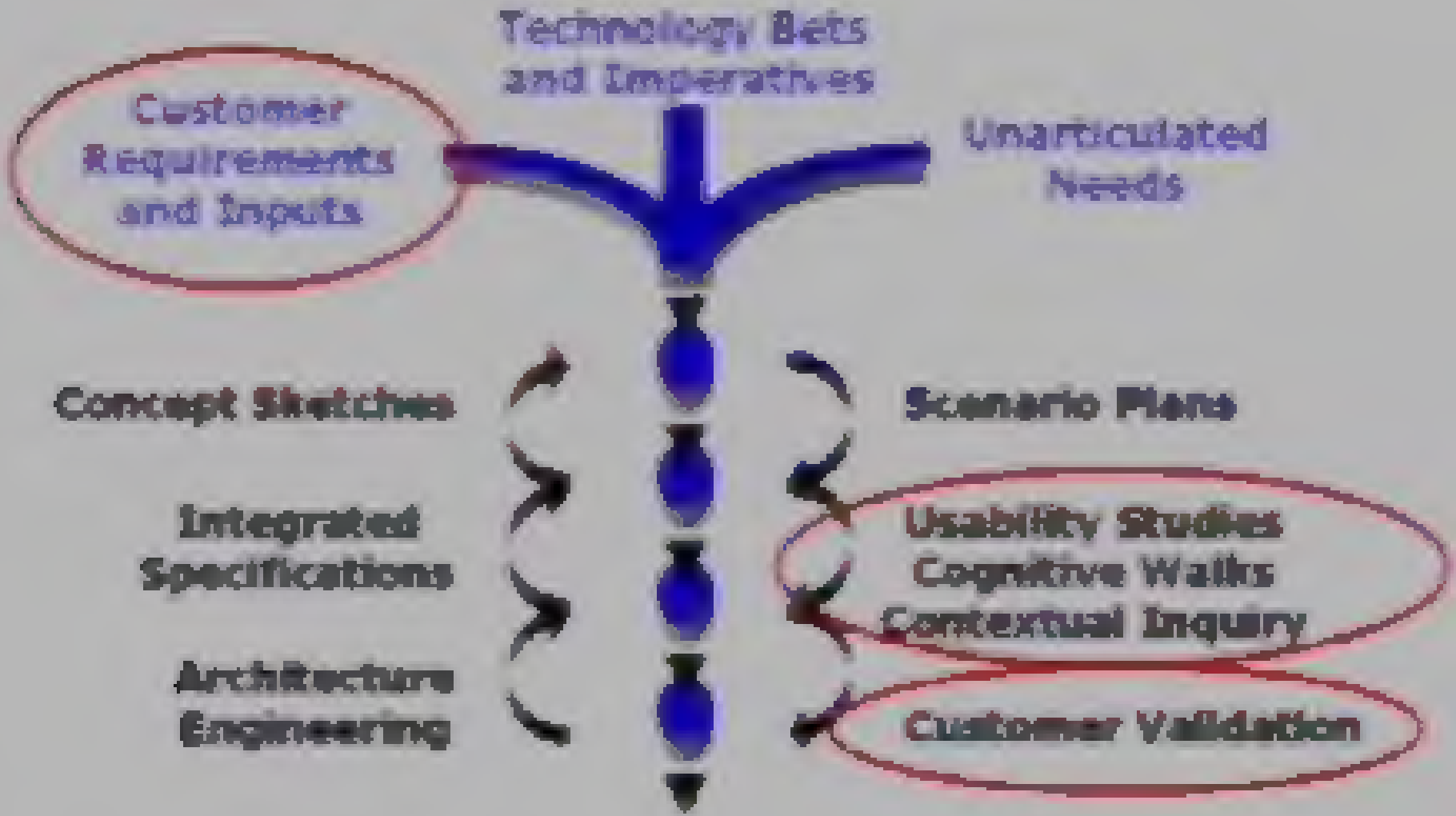
Challenges – The Pizza Problem...

- Wide spectrum of target customers
  - From end-users to administrators
- Want new features but no new learning
  - How do I migrate the users and the current learning
- Must be innovative but fully compatible
  - New features but no surprises (file formats, macros, solutions)
- Designed to be flexible but lockable
  - Fully customizable and configurable – but lockable if I so wish
- Fully loaded but not bloated
  - My 20% of the features are most important
  - The other 80% should not get in my way

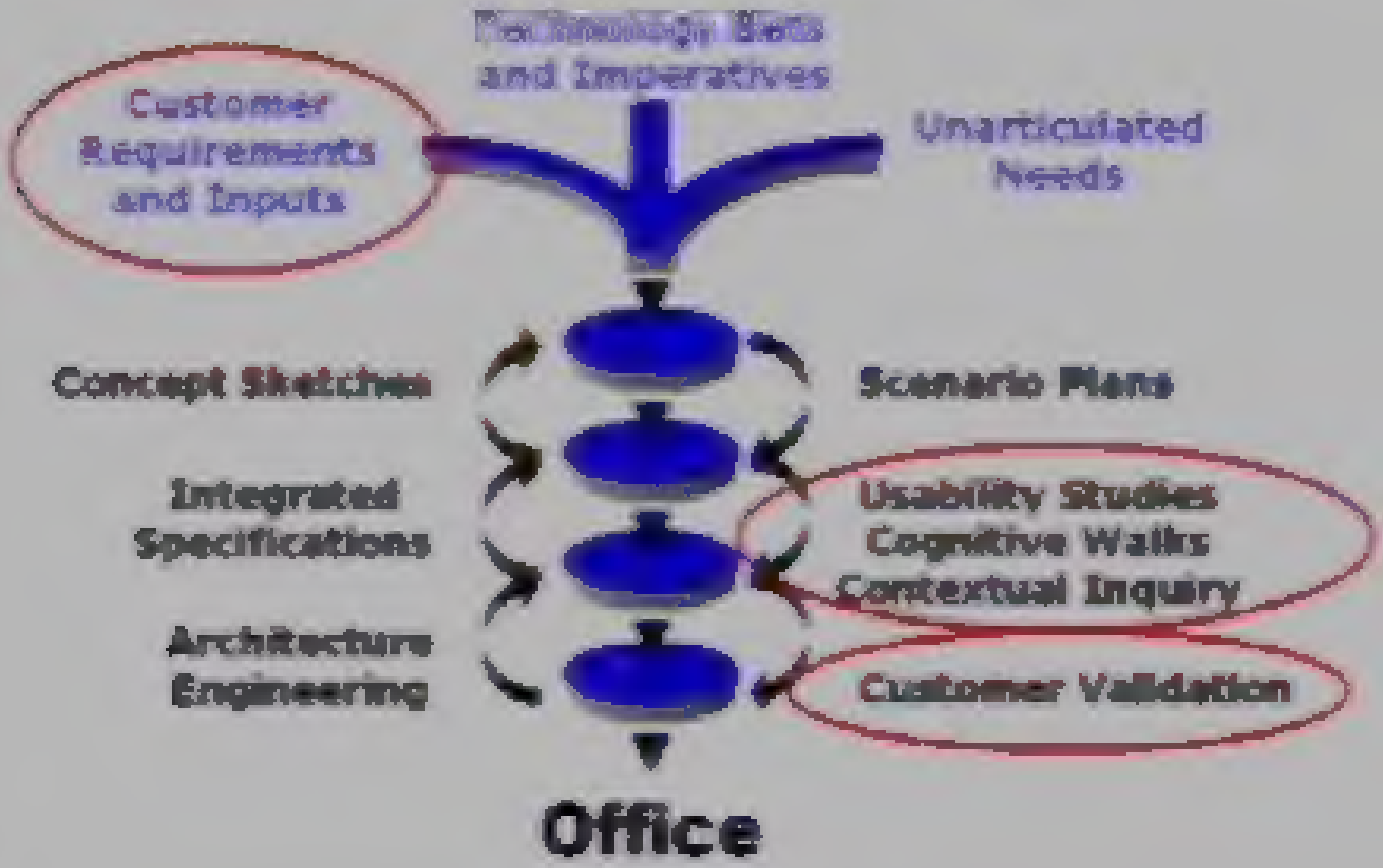
Understanding the customer better

- Instrumented versions
  - Log everything done by users
  - Some "duhs", some surprises
- Usability studies
  - Get to see and feel the customer's pain
- Customer visits
  - Everyone does them
  - Watch users work
- Advisory Council
  - From 15 hand-picked companies
  - Meet in Redmond before and during dev cycle

Designing for innovation



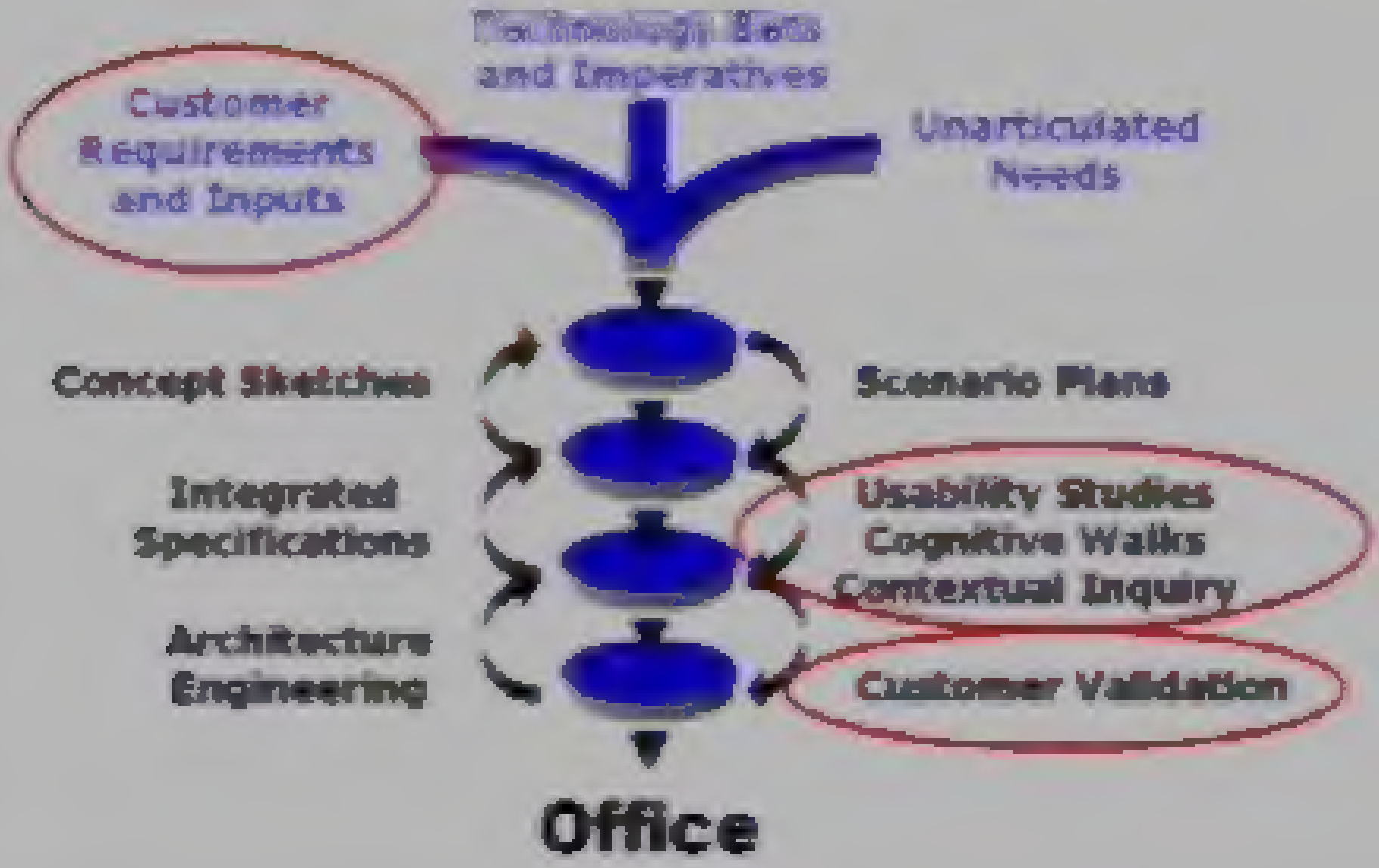
Designing for innovation



How We're Organized

- Roles:
  - Core:
    - Dev, Test, Prog. Mgmt., User Ed., Marketing
  - Others:
    - Product Planners
    - Designers
    - Usability Specialists
    - PSS
    - Localizers

Designing for innovation



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How We're Organized

- Groups
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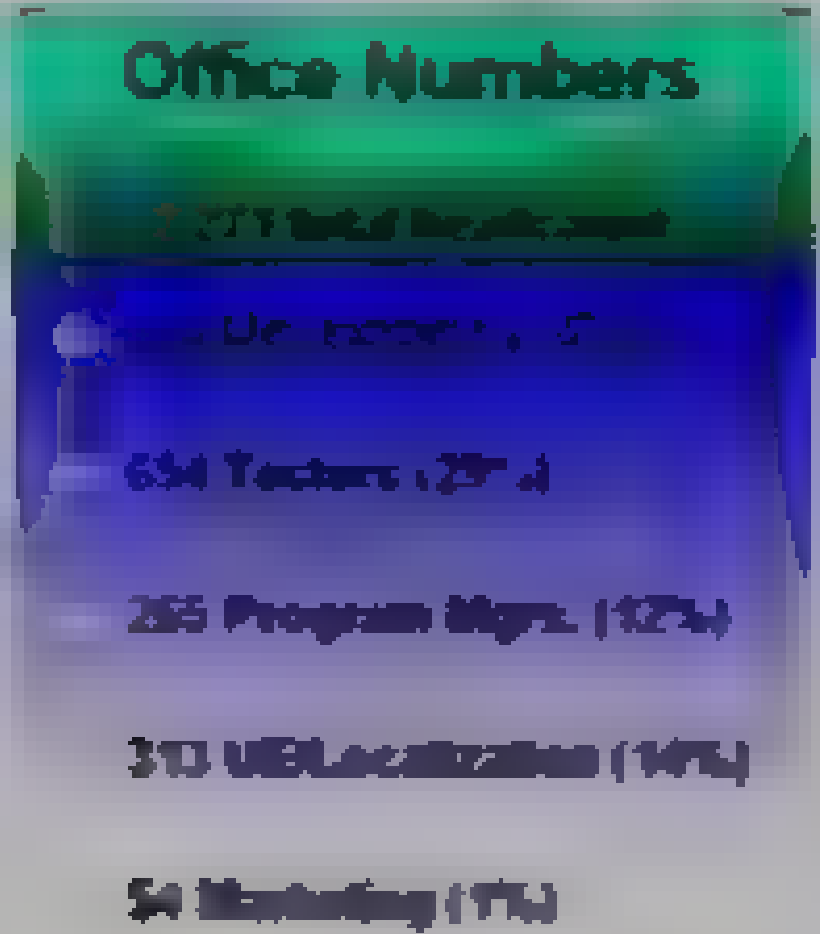
How We're Organized



Development Timeline

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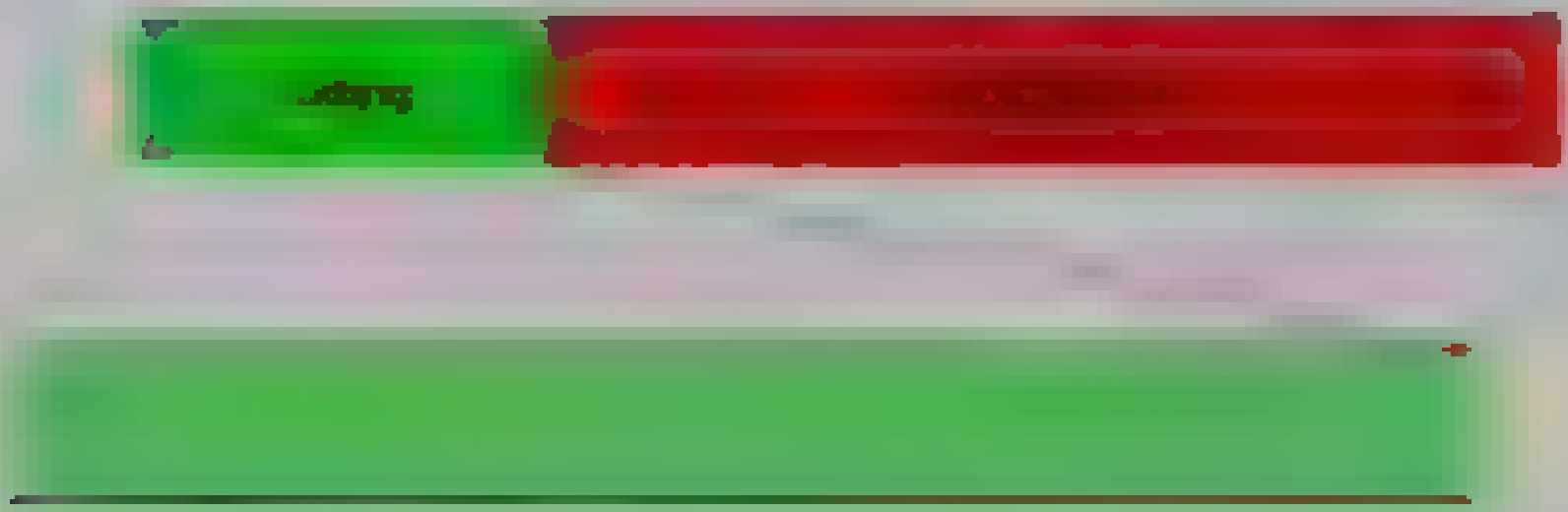

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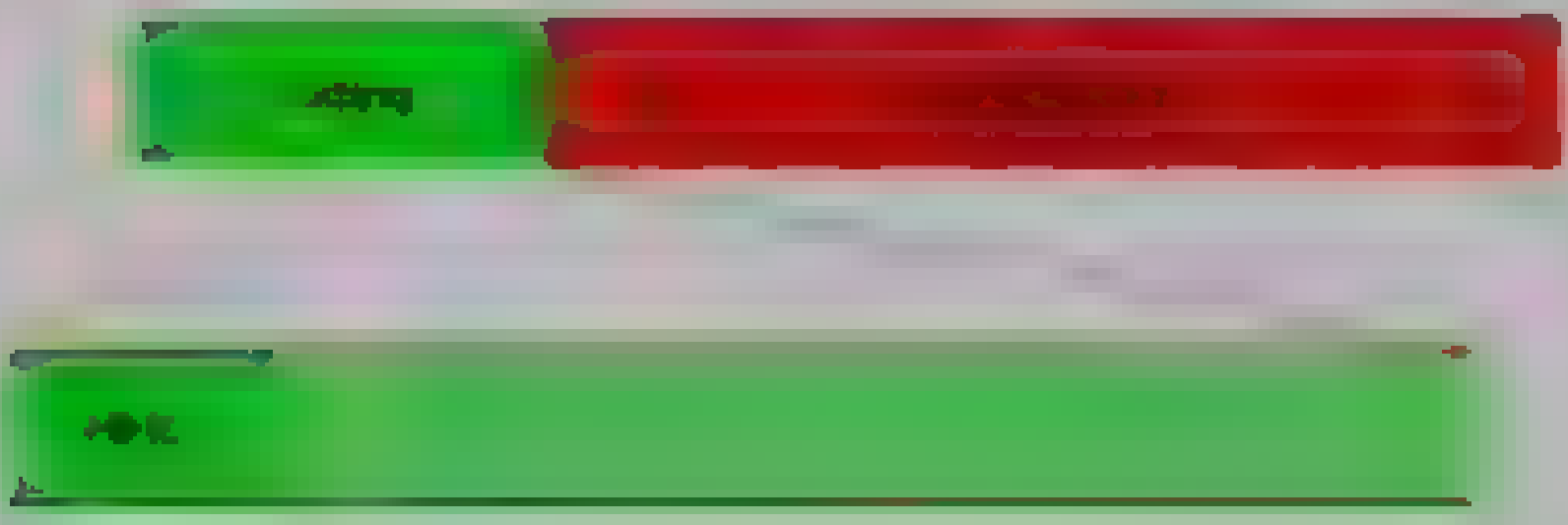

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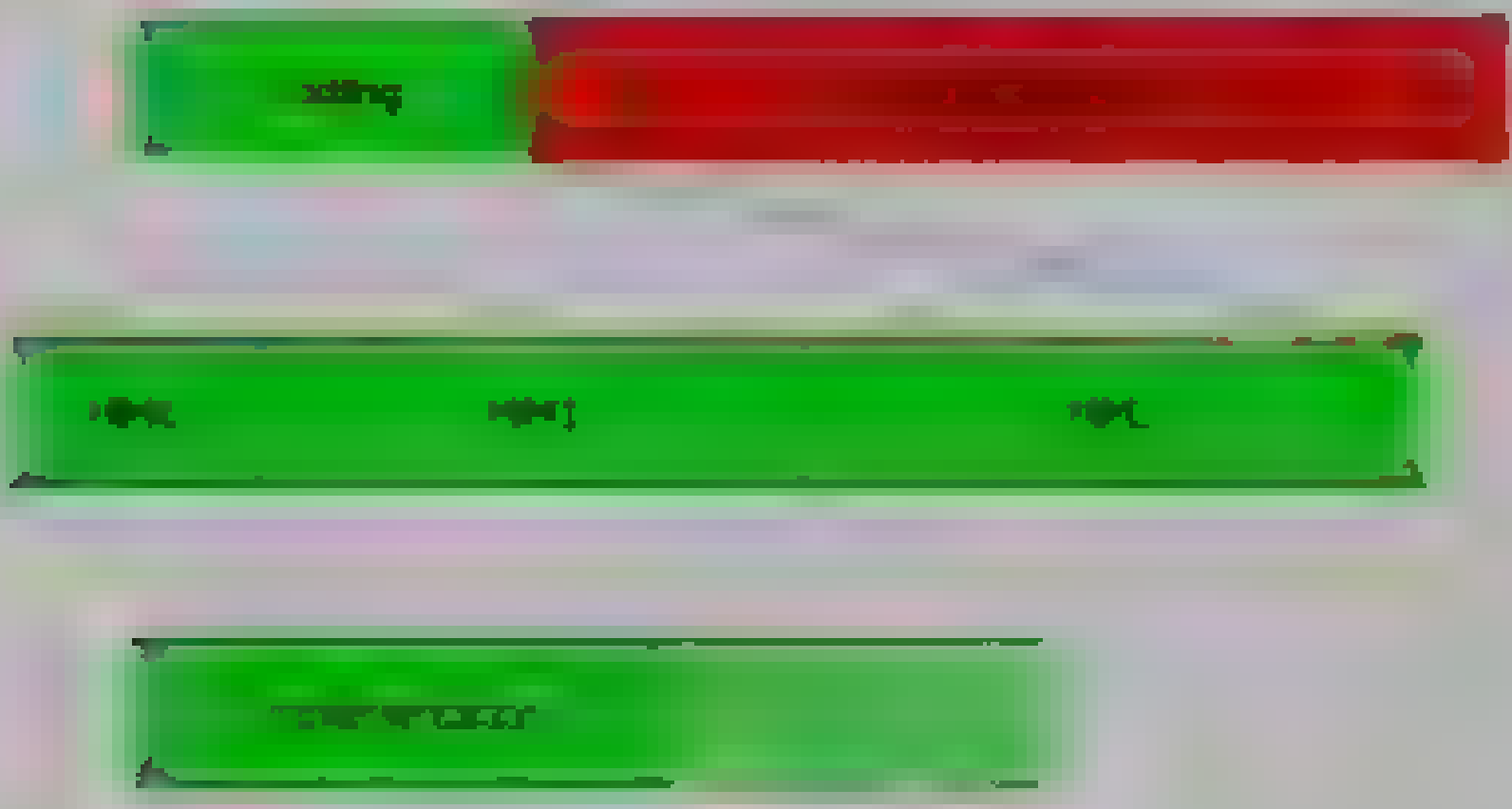
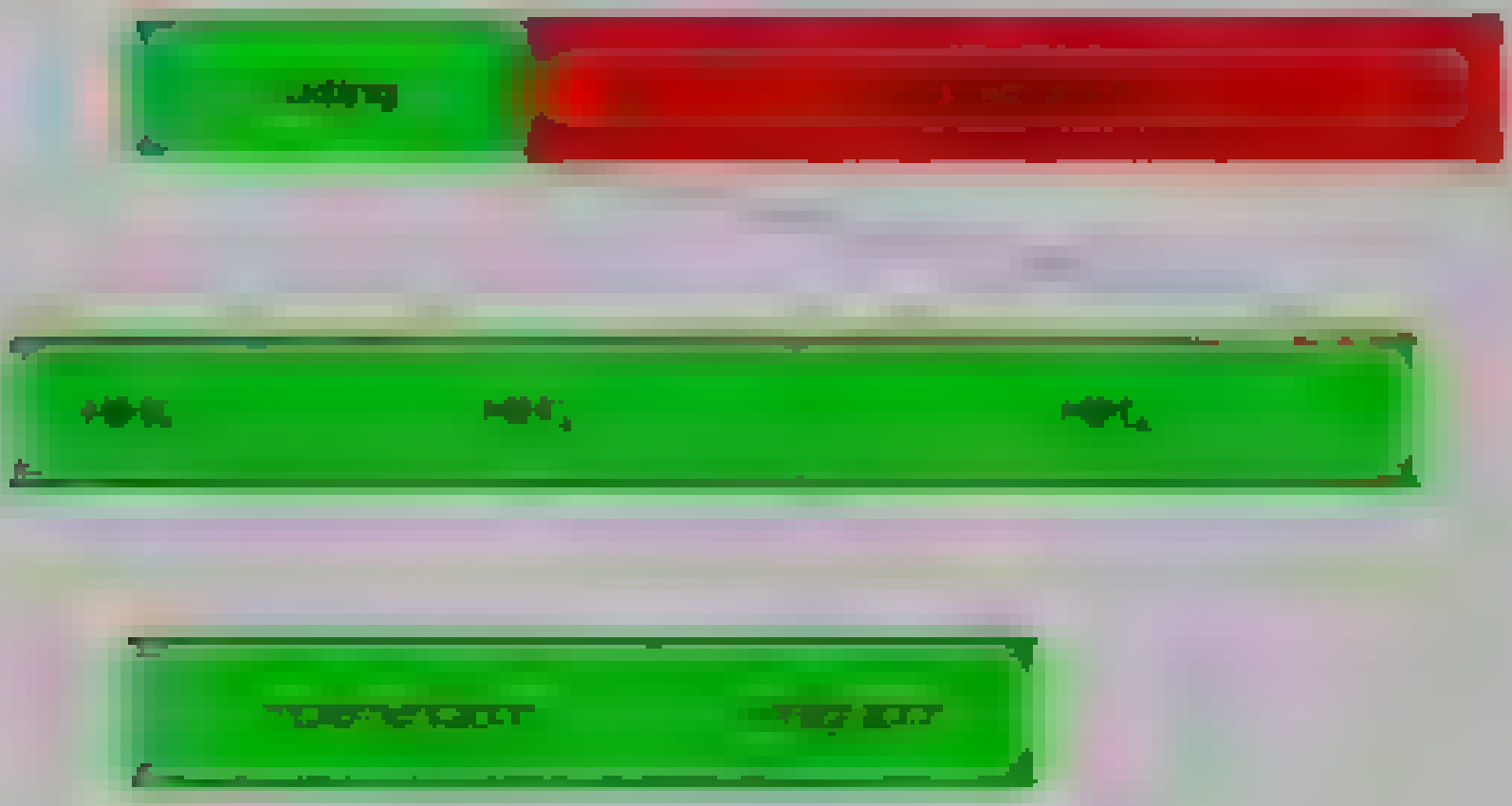


Development Timeline



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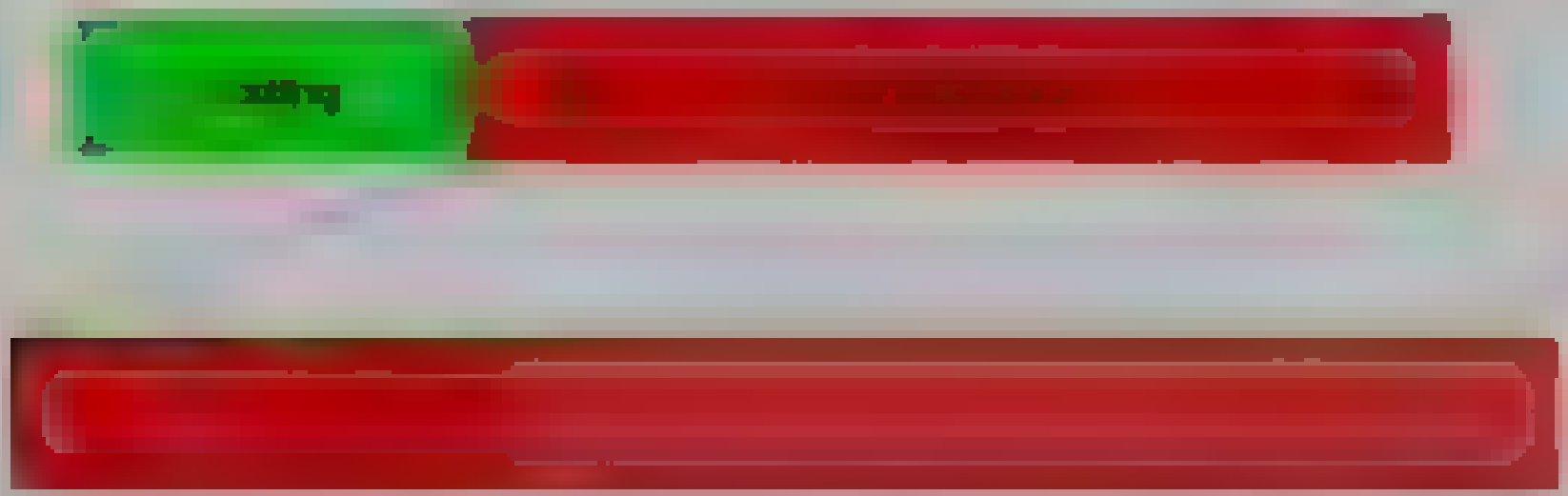
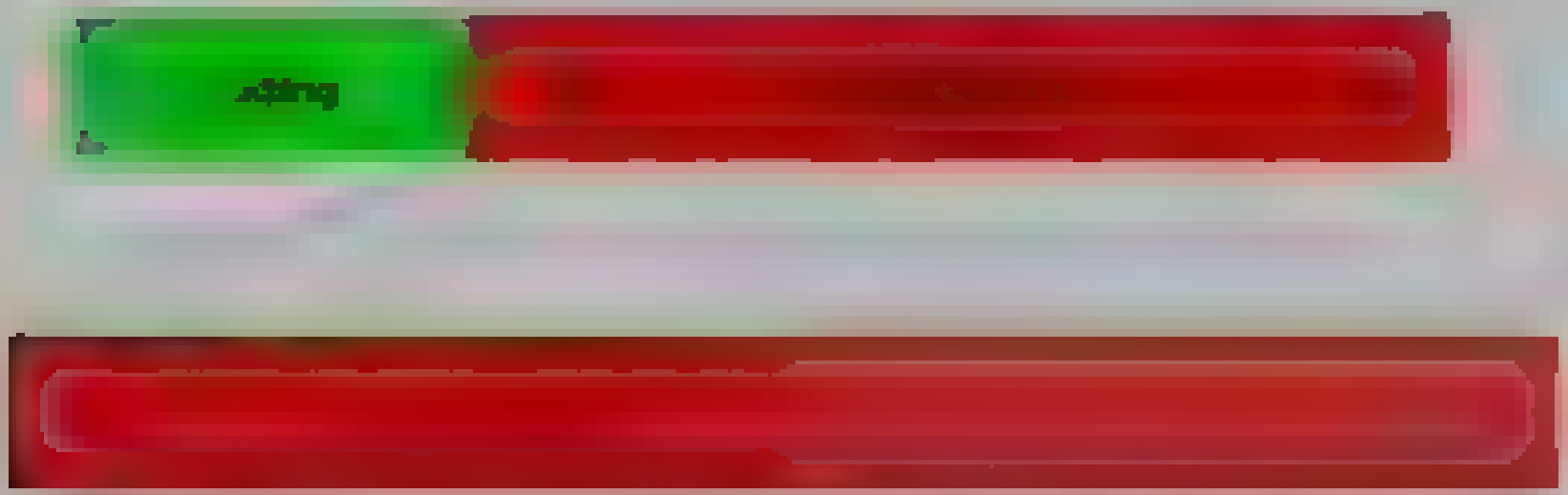


Development Timeline



Development Timeline

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Development Timeline

The life of an Office developer

- Features are assigned

The life of an Office developer

- Features are assigned
- Designs are done
- Design reviews
- Features are scheduled
- Schedule is rolled up and balanced

The life of an Office developer

The life of an Office developer

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The life of an Office developer

The life of an Office developer

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About the Code

- All apps written in C
  - Excel, Word
- or in C++
  - MSC Access is C++ Code

About the Code

How much code is there?

About the Code

How much code is there?

Office 2000	
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
Total	**7,705,138**

About the Code

How much code is there?

Office 2000	
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[illegible]	[illegible]
Total	**7 705 138**

Office 97	
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Total	**4 056 270**

About the Code

- Word in Office 2000
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What we do well

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http://office10

What we do well

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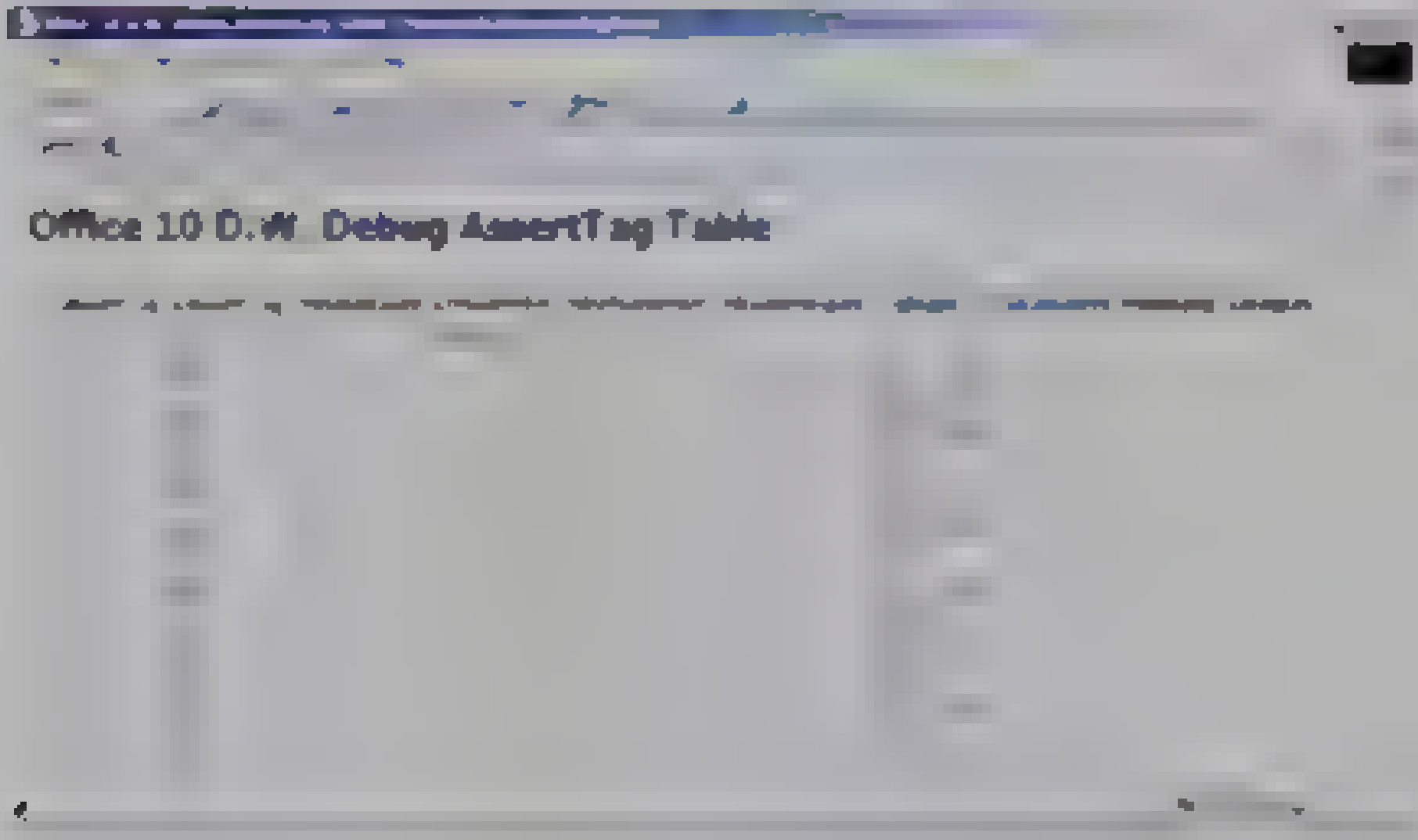
AssertTags



AssertTags (cont.)

OfficeWatson

What we do well

- Easy to use performance tools
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- Coding Scheduling methodologies
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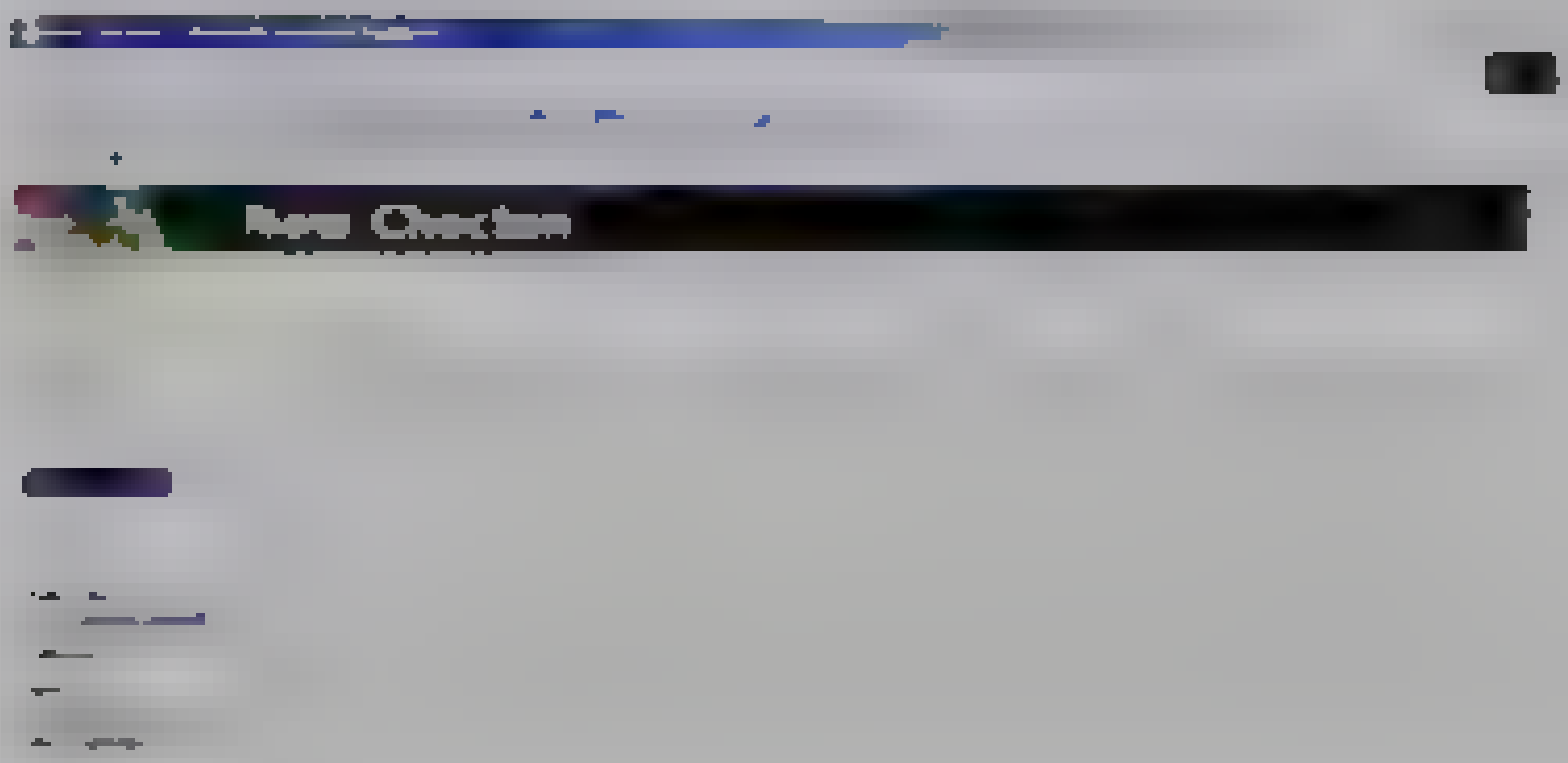
Check-in tool



Things we're not good at

- Maximizing coding time
  - Coding to overhead ratio too high
  - Need more robust builds/tests
    - Too much time blocked
    - Too many "random" failures today
    - Some tools are too fragile
    - The "environment" is too fragile
  - Build break resolution/turn-around timeliness

Things we're not good at

- How do we reduce bug fixing time?
  - Improve checkin code quality
    - Verification tools
    - Better developer discipline
    - Pre-checkin test depth/targeting
    - Staging and sub-projects
  - Reduce the number of "spec issue" bugs
    - One analysis shows this is 40% of all bugs

Things we're not good at

- Reducing bug fixing time (cont.)
  - Need better way of prioritizing bugs
    - Gather more data internally & from betas
  - Performance roller coaster
    - Too much "break it now, fix it later"

Things we're not good at

- Schedule predictability
  - Better data
  - Better model of how things really are
  - Schedule *everything*